Microsoft

# Azure Developer Community Call

Focus Topic: **Java On Azure**
November 17th 2022

# Contents

- Azure Developer Community 2.0
- Community News
- Service Updates & Announcements
- Java on Azure by Jörg Joss and Jeffrey Groneberg

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# Code of Conduct

- Microsoft's mission is to empower every person and every organization on the planet to achieve more. This includes at this event, where we seek to create a respectful, friendly, and inclusive experience for all participants. As such, we do not tolerate harassing or disrespectful behavior, messages, images, or interactions by any event participant, in any form, at any aspect of the program including business and social activities, regardless of location.
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# Azure Developer Community 2.0

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# 2 Calls - 1 Community

## Formate

Die Azure Developer Community Calls gibt es in zwei verschiedenen Formaten, die immer im Wechsel stattfinden.

### News & Hot Topics

**Focus Topic, Azure Updates & Community News**

Hol dir Updates zu aktuellen Azure-Ankündigungen, neuen Services und Community-Aktivitäten. Neben den wichtigsten News erhältst du in den News & Hot Topics-Sessions einen Deep Dive zu einem aktuellen Entwicklungs- oder Cloud-Thema.

### Ask Me Anything

**Wir beantworten deine Fragen**

Du arbeitest an einem Azure-Projekt und brauchst einen Rat? Dann komm damit zu den Ask Me Anything-Sessions[1] des Azure Developer Community Calls. Unser Cloud-Native Experte und Host Dennis Zielke und ein Subject Matter Expert aus unserem Team beantworten dort Fragen zu einem Schwerpunktthema, geben dir Tipps und verraten Best Practices.

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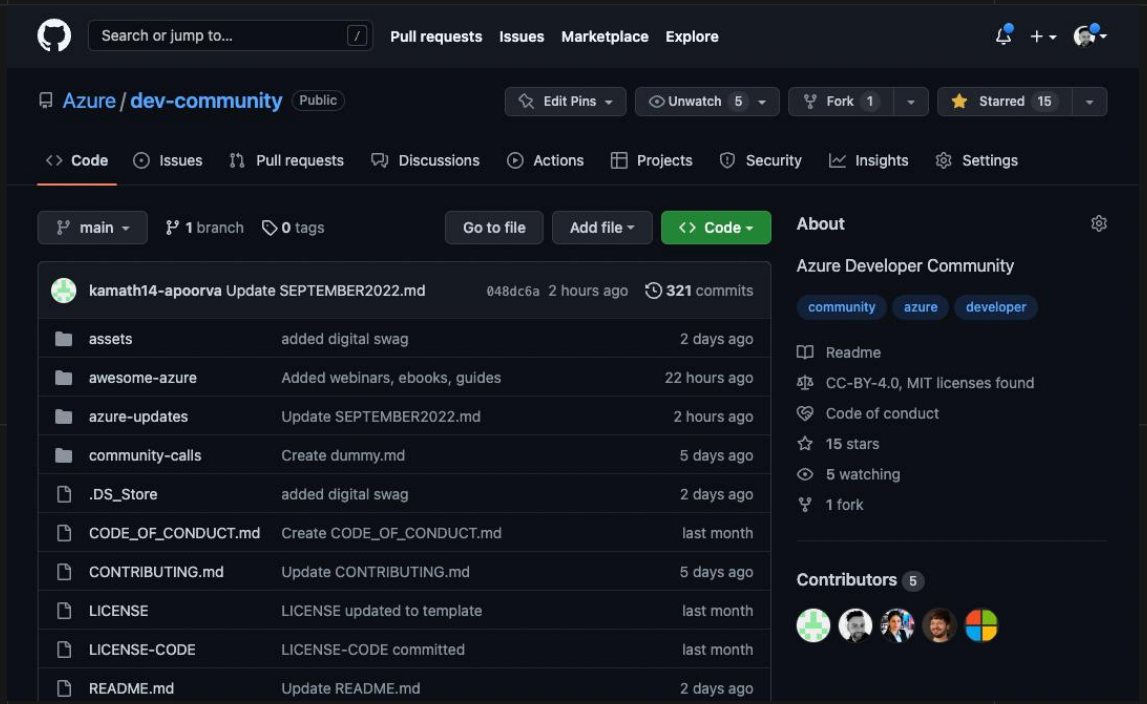
# Contribute to the Community Hub

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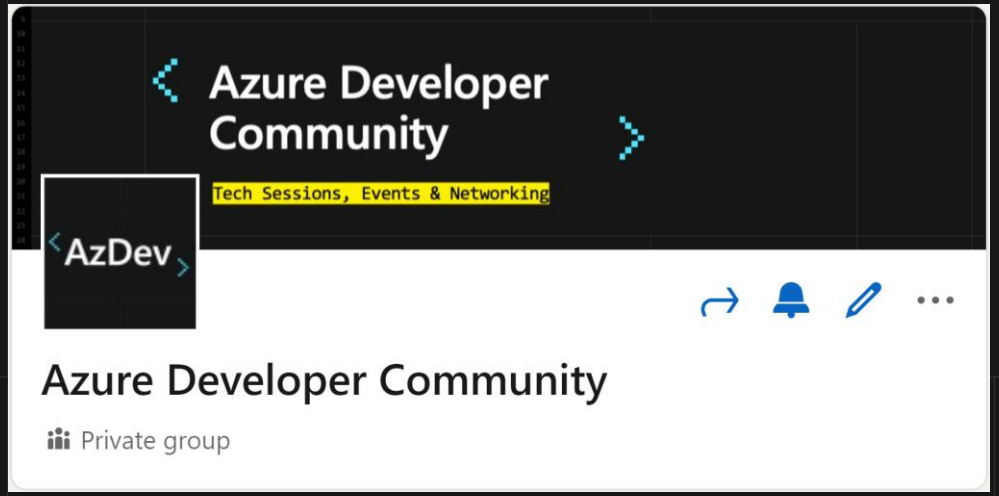
# Join our LinkedIn Group

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# Upcoming events

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# Upcoming community calls

| Date | Format | Topic | QR Code |
|---|---|---|---|
| Dec 1 | Ask Me Anything | Java on Azure | |
| Dec 15 | News & Hot Topics | Domain-driven design for distributed applications | |

Learn more

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# Microsoft Reactor Popup Berlin

| Date | Topic | QR Code |
|---|---|---|
| Nov 23 | Grand Opening \| Cloud Native | |
| Dec 15 | No focus topic | *Available soon* |
| Jan 19 | .NET Conf | *Available soon* |

Microsoft Reactor

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# Azure Adventure Day

In-person on **December 2** (Friday)
9.30 am – 5 pm

In our Microsoft office:
Walter-Gropius-Str. 5
80809 Munich

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# Azure Developer Community Day 2022

Hybrid on **December 13** (Tuesday)

4 parallel tech tracks, 30+ speakers

In our Microsoft office:
Walter-Gropius-Str. 5
80809 Munich

*Registration opens Nov 19*

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# Azure News & Updates

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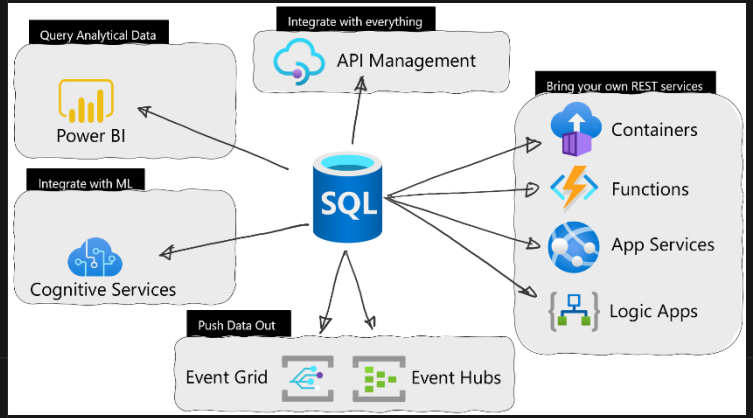
# Azure SQL Database External REST Endpoints Integration (Public Preview)




Learn more

```
declare @ret as int, @response as nvarchar(max);

exec @ret = sp_invoke_external_rest_endpoint
        @method = 'GET',
        @url = 'https://my-function.azurewebsites.net/api/say?message=hello world',
        @response = @response output;

select @ret as ReturnCode, @response as Response;
```

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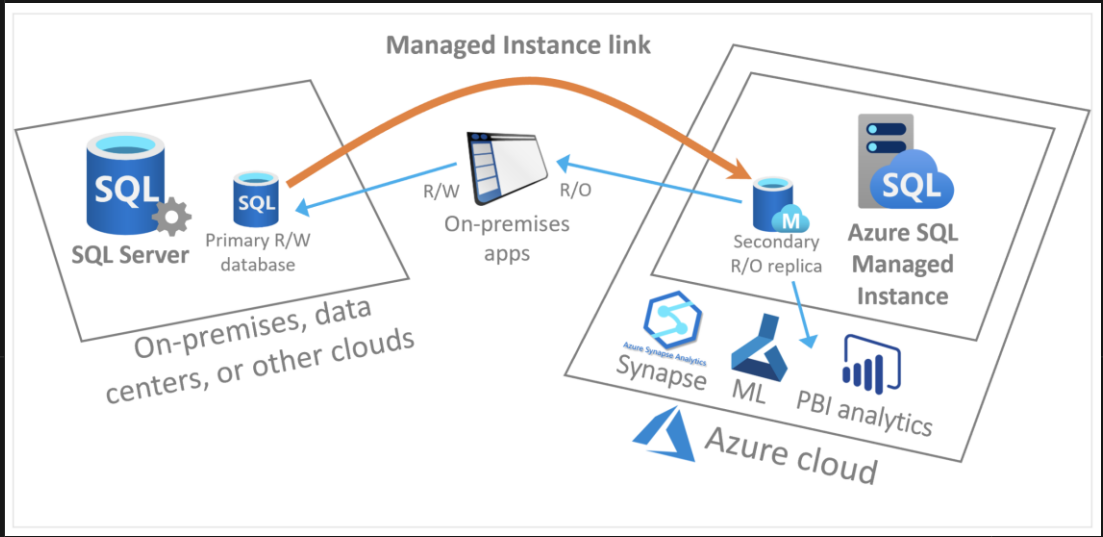
# SQL Managed Instance link feature (Preview)




Learn more

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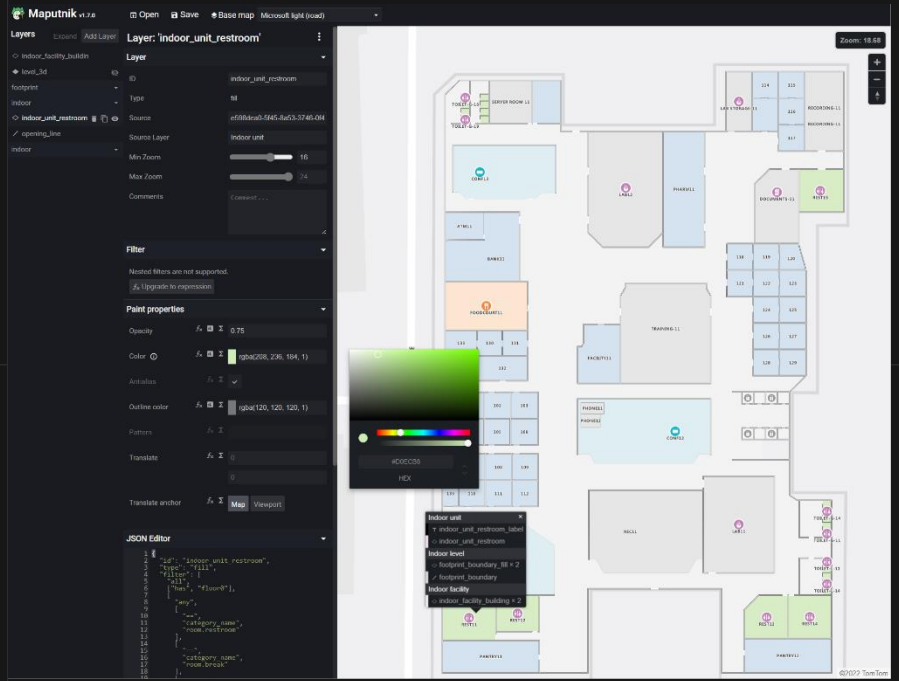
# Azure Maps Creator enables you to create Indoor Maps with GeoJSON




[Learn more]

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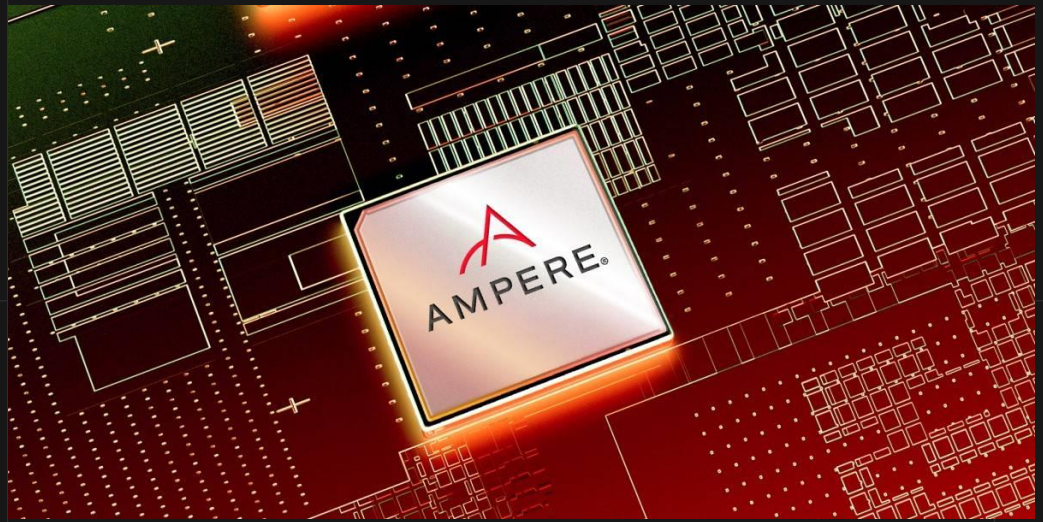
# Arm-based VMs now GA in 4 additional Azure regions




Learn more

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# Vertical Pod Autoscaler (VPA) is now supported in AKS (Preview)

```yaml
apiVersion: autoscaling.k8s.io/v1
kind: VerticalPodAutoscaler
metadata:
  name: vpa-auto
spec:
  targetRef:
    apiVersion: "apps/v1"
    kind:       Deployment
    name:       vpa-auto-deployment
  updatePolicy:
    updateMode: "Auto"
```

Learn more

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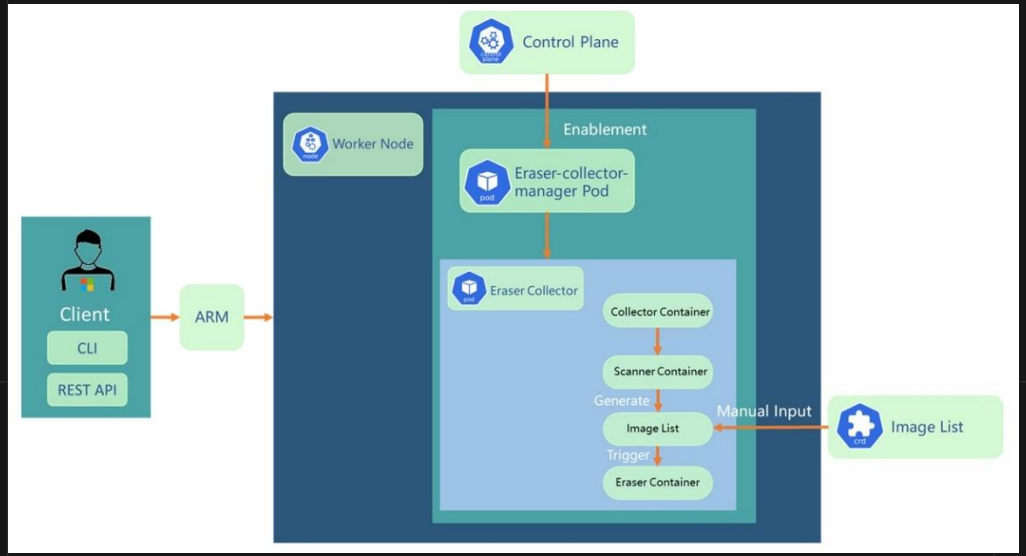
# AKS image cleaner (Preview)




[Learn more]

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# AKS: Configure kube-proxy to use IPVS load balancer (Preview)

```
az feature register --namespace "Microsoft.ContainerService" --name "KubeProxyConfigurationPreview"
```

```
{
  "enabled": true,
  "mode": "IPVS",
  "ipvsConfig": {
    "scheduler": "LeastConnection",
    "TCPTimeoutSeconds": 900,
    "TCPFINTimeoutSeconds": 120,
    "UDPTimeoutSeconds": 300
  }
}
```

Learn more

```
az aks create -g <resourceGroup> -n <clusterName> --kube-proxy-config kube-proxy.json
```

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# Hot Topic:
# Java on Azure

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# Java on Azure

Modernize or build new applications with tools and frameworks of your choice

Presented by **Jörg Jooss (CSA)** & **Jeffrey Groneberg (CSA)**

# Agenda

Java on Azure

Modernize your Java applications

Ship faster and reduce costs with fully managed services

Resources

# Java on Azure

## Home for enterprise Java applications

# Strong partner ecosystem

Jointly built and operated service—Azure Spring Apps

Redis Enterprise on Azure managed infrastructure

Jointly supported JBoss EAP on App Service and VMs

Elastic Cloud on Azure Marketplace

Solution templates for WebLogic on Azure VMs and AKS

Confluent Cloud with Azure Portal and CLI integration

Solution templates for WebSphere on Azure VMs

# Community engagement

ECLIPSE FOUNDATION

Toolkit and plug-ins to improve Eclipse dev experience

GitHub

3.6M+ Java repositories hosted, free support and resources for Java devs

OpenJDK

Fixes, performance enhancements, and new ports

Visual Studio Code

Java extensions for Maven, Run/Debug, Unit Testing, and more

ADOPTIUM

Strategic member and project contributor

Support for popular Java standards and projects

spring

Spring Apps for Azure project and managed service for Spring Boot

# Java is widely used across Microsoft

## 2,000,000+ JVMs in production*

**LinkedIn**
1800+ Java microservices in production

**Minecraft**
Hundreds of servers built in Java and very popular Java Edition

**Azure**
Azure internal systems

**Android**
50+ apps published by Microsoft in Google Play Store

**Yammer**
Back-end implemented in Java

*Internal usage; does not include customer workloads

# Modernize your Java applications

# Market context and customer benefits

## Realize value by choosing Azure for your Java modernization

| | | |
|---|---|---|
| **55%** | of developers use 5 or more tools in their development process* | **Build on your terms with familiar tools** |
| **7x** | faster release cycles vs 10 years ago* | **Ship faster & reduce costs with fully managed services** |
| **68%** | YoY increase in data breaches* | **Increase reliability & security with services informed by insights gathered at cloud scale** |

*Sources: GitLab 2018 Developer Survey; Forrester; Gartner; ID Theft Resource Center

# Build on your terms

## Use tools your developers and operators are familiar with

IntelliJ

Your favorite IDEs with seamless Azure integration

Eclipse

Your favorite IDEs with seamless Azure integration

VS Code

Your favorite IDEs with seamless Azure integration

Maven

Popular build automation tools for Java developers

Gradle

Popular build automation tools for Java developers

GitHub

World's largest developer community

Jenkins

Popular open-source automation server

Terraform

Infra-as-code for automated Azure management

Use the Azure Toolkits for IntelliJ and Eclipse to easily create, develop, configure, test, and deploy highly available and scalable Java apps to Azure.

Use plugins for Maven and Gradle to natively build and interact with Azure services.

Automate your software workflows with GitHub Actions. Integrate GitHub with Jenkins and Terraform to automate Azure deployments.

# Modernize Java applications on Azure

## Frameworks

### Java EE/Jakarta EE application servers

Red Hat JBoss Enterprise Application Platform

ORACLE

IBM WebSphere

WildFly

### Java application frameworks

## Microsoft Azure

### Infrastructure-as-a-service

Virtual Machines

### Container platform-as-a-service

Azure Kubernetes Service

Red Hat OpenShift

### Platform-as-a-service

#### Azure Container Apps

#### Azure App Service

Java SE

Tomcat

JBoss EAP

Red Hat

#### Azure Spring Apps

Spring Boot

Control ⟵ ⟶ Productivity

### Databases

Azure Database for PostgreSQL

Azure Database for MySQL

Azure Cosmos DB

Azure Cache for Redis

Azure SQL Database

### Tooling

IDEs

Build tools

GitHub

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# Azure differentiation for Java applications

Fully managed offerings for any Java app – Spring Boot, Tomcat, and Java EE including JBoss EAP

90+ compliance certifications – more than other cloud provider

Supported offerings from VMware, Red Hat, Oracle, IBM, Redis, and Elastic

More regions than Amazon Web Services and Google Cloud Platform combined

Single sign-on across cloud and on-premises environments

>95% of Fortune 500 companies run on Azure

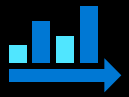
# Ship faster and reduce costs with fully managed services

# Fully managed PaaS for Tomcat and JBoss EAP

**Focus on the apps that run your business, not managing infrastructure**

App Service

Deploy JAR, WAR or EAR using tools of your choice



Built-in CI/CD with zero downtime deployments

Intelligent troubleshooting and performance optimization

Automatic updates and security patches

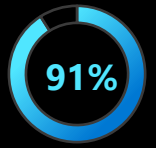
Red Hat
JBoss Enterprise
Application Platform

# Spring – trusted and growing

## Spring is fantastic for developer productivity

When asked, 67% of managers, 66% of architects, and 50% of developers strongly agreed that they care deeply about developer productivity, and Spring delivers… 95% of respondents agreed that **Spring Boot has a huge positive impact on productivity**, and 91% agreed that, **compared to other Java development platforms, Spring has a bigger impact.**

95% of respondents say Spring Boot has a huge positive impact on productivity

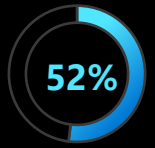



91% say Spring has a bigger impact on developer productivity than other Java programs

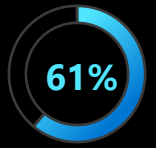
## Spring Boot downloads per month

| Nov 2018 | Nov 2019 | Nov 2020 | Nov 2021 |
|---|---|---|---|
| 52.5 Million+ | 95 Million+ | 152 Million+ | 239 Million+ |

2020




2021




61% of developers surveyed use Spring Boot as their only or primary development program

Source – The State of Spring 2021

# Azure Spring Apps

## Fully managed service for Spring Boot apps

Full integration into Azure's ecosystem and services

Fully managed infrastructure

Built-in app lifecycle management

Ease of monitoring

**Enterprise ready**

Jointly built, operated and supported by Microsoft and VMware

# Spring Apps Azure

## Spring Data
- SQL Database
- MYSQL
- PostgreSQL
- Maria DB
- Cosmos DB
- SQL
- MongoDB
- Cassandra

## Spring Security
- Active Directory
- AAD B2C

## Spring Apps
- App Configuration
- Event Hubs
- Kafka
- Service Bus
- Redis
- Functions

## Spring Integration
- Service Bus
- Event Hubs
- Storage Queue

## R2DBC
- SQL Database
- PostgreSQL
- MySQL

## Spring Messaging
- Service Bus
- Event Hubs

## Zero Trust
- Key Vault Secrets
- Key Vault Certs

## Spring Resource
- Blog Storage
- Azure Files

## Spring Cache
- Redis Cache

## Micrometer
- Monitor

aka.ms/spring-cloud-azure

# Azure Container Apps

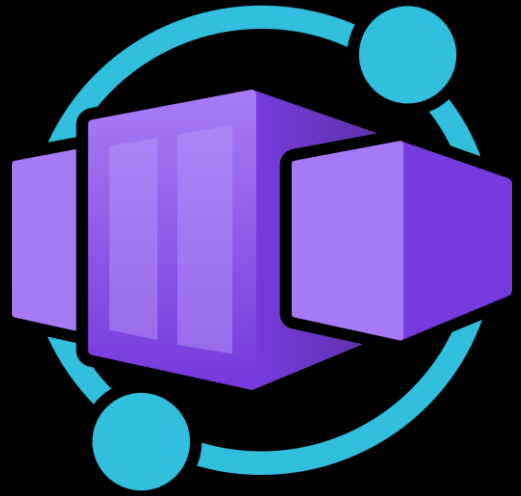
## Serverless containers for microservices

Build modern apps on open source

Focus on apps, not infrastructure

Seamlessly port to Kubernetes

Kubernetes KEDA DAPR Envoy



# Modernize your Java applications using containers

## Choose from a variety of tools, orchestrators, and platform services

### Development Tools

- IDEs
- Docker
- Build Tools
- GitHub
- Azure Container Registry

### Container PaaS

- Azure Kubernetes Service
- Azure Red Hat OpenShift
- Azure Container Apps

### Platform

- Active Directory
- Azure Policy
- Security Center
- Key Vault
- Azure Monitor
- Managed DBs
- Service Bus
- Azure Advisor

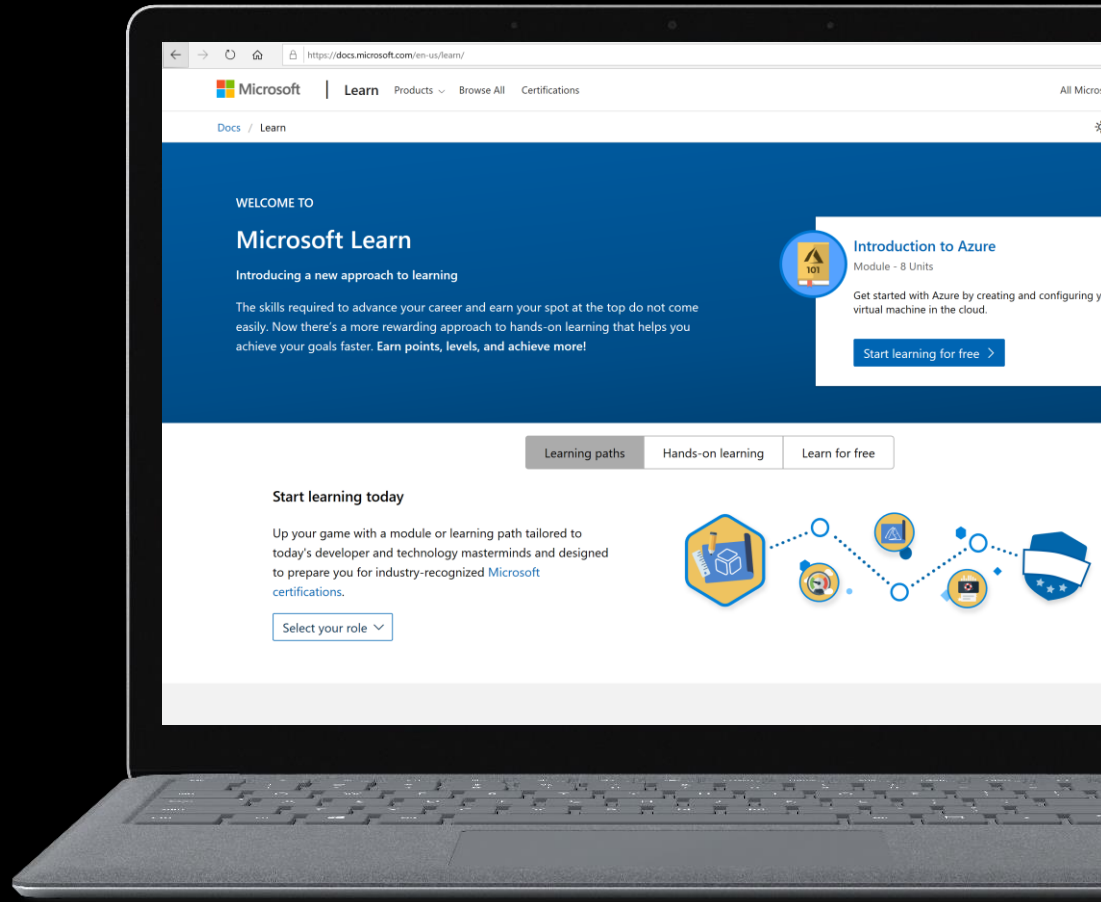
**Azure Arc**
Management across environments

# Microsoft Learn

Hundreds of learning paths, completely free

Step-by-step tutorials

Browser-based interactive coding environments



# Java on Azure – Central Page

https://developer.microsoft.com/en-us/Java

# Get started on your Java modernization journey

## Resources for success

### Microsoft Cloud Adoption Framework

Proven guidance to accelerate your cloud journey

[Cloud Adoption Framework]

### Best practices and tutorials

Technical guidance and step by step tutorials

[Java on Azure documentation center]

[Azure for Java quickstarts]

[Java to Azure migration strategies]

[Java developer tools for Azure]

### Learning resources

Learning resources to build cloud skills

[Java on Azure learning paths and modules]

[Build with Azure Spring Apps]

[Automate Java container deployments]

[Build with Cosmos DB]

### Partners and Microsoft Programs

Professional expertise for your unique needs

[Cloud native applications]

[App migration]

# Our picks

## Repositories

**Azure Spring Cloud – E2E app**
https://github.com/Azure-Samples/azure-spring-cloud

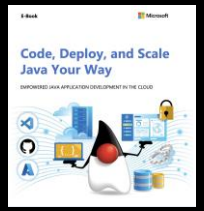
**Azure Spring Cloud samples**
https://github.com/Azure-Samples/Azure-Spring-Cloud-Samples

**Migrate an app to Azure Spring Cloud - Training**
https://github.com/microsoft/migrate-spring-apps-to-azure-training/blob/master/README.md

**Spring Petclinic on Azure**
https://github.com/azure-samples/spring-petclinic-microservices

**Animal Rescue app on Azure**
https://github.com/Azure-Samples/animal-rescue

## eBooks




https://cdn.graph.office.net/prod/media/java/code-deploy-scale-java-your-way.pdf

https://cdn.graph.office.net/prod/media/java/how-microsoft-applies-java.pdf

## Learning Path

**Get started with Java on Azure**
https://learn.microsoft.com/en-us/training/paths/get-started-java-azure/

OpenJDK

**Microsoft OpenJDK**
https://www.microsoft.com/openjdk

# AMA – 1st December

**Feel free to ask in advance:**

https://github.com/Azure/dev-community/discussions/14

# Thank you

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